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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/743,942 | 12/24/2003 | Satoru Komatsu | 107355-00102 | 9576 |

7590 07/12/2005

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EXAMINER

AL NAZER, LEITH A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2821

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/743,942

Applicant(s)KOMATSU ET AL. **Examiner**

Leith A. Al-Nazer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-6 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,329,950 to Harrell et al.

With respect to claim 1, Harrell teaches an antenna comprising: a radiation element (422 in figure 10) provided on a dielectric substrate (14); and a grounding conductor (427 in figure 10) surrounding a periphery of an outer edge portion of the radiation element at a position spaced away outwardly from the outer edge portion; wherein the radiation element has an inner cut-out portion (424 in figure 10) so that the surface of the dielectric substrate to be exposed therethrough, and wherein the radiation element and the grounding conductor are provided on the same surface of the dielectric substrate (figures 2, 4, and 10).

With respect to claim 3, Harrell teaches the radiation element (422 in figure 10) being circular shaped having a predetermined width.

With respect to claim 4, Harrell teaches an inner edge portion of the inner cut-out portion following an outer edge portion of the radiation element at a position spaced

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away inwardly at a predetermined widthwise distance from the outer edge portion of the radiation element (figure 10).

Claim 5 requires an external size of the antenna with the inner cut-out portion be smaller than that of an antenna without the inner cut-out portion. Although not explicitly stated, such a conclusion would be inherent from the disclosure of Harrell since the system taught by Harrell includes all of the limitations found in base claim 1 (see above).

3. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,714,961 to Kot et al.

With respect to claim 1, Kot teaches an antenna comprising: a radiation element (7 in figure 1) provided on a dielectric substrate (2 in figure 1); and a grounding conductor (8 in figure 1) surrounding a periphery of an outer edge portion of the radiation element at a position spaced away outwardly from the outer edge portion; wherein the radiation element has an inner cut-out portion (4 in figure 1) so that the surface of the dielectric substrate to be exposed therethrough, and wherein the radiation element and the grounding conductor are provided on the same surface of the dielectric substrate (figure 1).

With respect to claim 3, Kot teaches the radiation element (7 in figure 1) being circular shaped having a predetermined width.

With respect to claim 4, Kot teaches an inner edge portion of the inner cut-out portion following an outer edge portion of the radiation element at a position spaced

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away inwardly at a predetermined widthwise distance from the outer edge portion of the radiation element (figure 1).

Claim 5 requires an external size of the antenna with the inner cut-out portion be smaller than that of an antenna without the inner cut-out portion. Although not explicitly stated, such a conclusion would be inherent from the disclosure of Kot since the system taught by Kot includes all of the limitations found in base claim 1 (see above).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,329,950 to Harrell et al. in view of U.S. Patent No. 6,188,368 to Koriyama et al.

Claim 6 requires the radiation element be a semiconductor. It is well known in the art that semiconductor materials can be used as radiating elements, as is evidenced by Koriyama. Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize a semiconductor radiating element in the system of Harrell. The motivation for doing so would have been to provide an element with desired radiation properties, as is suggested by Koriyama (column 1, lines 18-26).

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,714,961 to Kot et al. in view of U.S. Patent No. 6,188,368 to Koriyama et al.

Claim 6 requires the radiation element be a semiconductor. It is well known in the art that semiconductor materials can be used as radiating elements, as is evidenced by Koriyama. Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize a semiconductor radiating element in the system of Kot. The motivation for doing so would have been to provide an element with desired radiation properties, as is suggested by Koriyama (column 1, lines 18-26).

Allowable Subject Matter

8. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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9. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or suggest one or more of the limitations found in dependent claim 2. With respect to dependent claim 2, the prior art of record fails to teach or suggest the radiation element being substantially a quadrangular film having two pairs of opposing corner portions, and wherein one pair of the opposing corner portions is cut to form substantially linear perturbative portions.

Response to Arguments

10. Applicant's arguments with respect to claims 1 and 3-6 have been considered but are moot in view of the new ground(s) of rejection.

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A. Al-Nazer whose telephone number is 571-272-1938. The examiner can normally be reached on Monday-Friday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LA



**HOANG V. NGUYEN
PRIMARY EXAMINER**